

NATURE, C'EST MOI



Some Thoughts on Biotechnology

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transmitted anything, that they don't perceive any intelligible descendants around them, that throughout their existence they have been nothing but detached, completely interchangeable pieces within the social machine which will not preserve any memory of their passing. If to live already means to be nothing, to die is *to have never been*. It is hard to resign oneself to this sad clarity, but it is one of the main determinations of modern subjects and their depressing tendencies; which causes us to accept that all of life goes by in total dependence on the organized society within which we are enclosed on the promise of a few additional years "in full form". In other times, one left one's body to science; now we belong to it while alive, just like a corpse, even before it dismembers us in its hospitals

TRANSLATOR'S NOTE

This text appeared in the Italian publication of social critique *Diavolo in Corpo* in 1999. It is an analysis of the social and human meaning of biotechnology, pointing out that the development of this technology indicates an already existing degradation of life, individuality and humanity. Since the time it appeared in that publication, a number of developments have occurred within this field of scientific and technology research. Thus, some of the specific information in this article is outdated. For example, the mapping of the human genome has shown that we have far fewer genes than originally assumed, a good portion of which are supposedly simply viruses that have become permanent fixtures, but play no role in our heredity. But none of this undermines the general social analysis of the piece.

If there is a problem with this analysis, it is that it paints its dire picture in too absolute of terms. In doing so, it could leave one feeling helpless in the face of an insurmountable monolith. Thus, I think that it is important to read this text as a description of a direction that this society is heading, which we need to fight against without delay. Life can become nothing more than a tool for the benefit of capital and the state, or it can flower as our free individual and shared creation. The latter demands that we start now to tear down the system that makes the degradation of life inherent in biotechnology possible.

Wolfi Landstreicher

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Nothing to worry about

Throughout its history, humanity has never found itself as unprepared as now. In a little more than a generation our concept of life and the meaning of existence will be radically changed. A landscape as yet unknown extends before our eyes. Its contours are taking form in hundreds of biotechnology laboratories in universities, government agencies and industrial facilities throughout the world. If the 20th century was characterized by the discoveries of physics and chemistry, the 21st century will be profoundly conditioned by the so-called “life sciences”.

Paradoxically, it could be said that the 21st century actually began that morning in 1997 when news bulletins revealed to the inhabitants of the entire earth the unheard-of symbol that appeared in the heavens to rule the new era. This era opened at the sign of a cloned sheep named Dolly, born from a process of replication rather than conception. The thing itself wasn't all that sensational. It was summed up in the photo of a thoroughly commonplace sheep. But mass communications had to go all out in an intensive vulgarization in order to initiate consumers into the mysteries of molecular biology and the transgenic animal, showing them how this first non-sexual reproduction of a mammal has opened a new era of pharmacology. After the computer and the worldwide web, they must now instruct us in biotechnology in order to make us appreciate it.

The first days of this heated publicity were dedicated first of all to alarming us about the incredible danger that the possibility of human cloning would bring to bear on humanity. Only a global ethical barrier could protect us from this practice that was considered unacceptable. This fever of moral indignation demanded the absolute and solemn prohibition of a form of manipulation that was so harmful to our natural dignity, but after a rapid relapse, it given way to a more pragmatic viewpoint. It would be obscurantist and contrary to our anthropological

chemical and now genetic intervention. When someone asks: “If they have the means to improve human beings, why not do it?” he expresses a conception according to which human beings are supposed to be “bad”, inadequate, not at their highest with respect to the impeccable rationality of the system and the models of adaptation that the researchers themselves are. For their part, the parents, for whom the production of a child in a social atmosphere of increasingly difficult competition is a higher and higher financial investment, are led that much more to place confidence in the “discovery”, publicized in the media, of the gene for schizophrenia, for depression, for alcoholism, for neuroses, for adultery, for homosexuality, for aggressiveness, etc. False, abusive, absurd discoveries. But their publicity allows the idea of genetic determination of social performance, on the model of hereditary diseases, to spread and thus to justify not only the full medical conquest from gestation on, but also genetic tests that perfect the complete reification of children as objects for the satisfaction of their parents, as products to “optimize” through nutritional supplements, chemical treatments, educational logics following one after the other.

“If a superior individual, and presumably its genotype, is identified, why not copy it directly rather than meeting with all the risks, including those of the determination of sex involved in the confusion of recombination (sexual procreation)? Sexual reproduction is allowed for experimental purposes; when a suitable type is found, it is necessary to be sure to maintain it by means of the multiplication of clones.”

—Dr. Joshua Lederberg

Nothing to Hand Down

Enclosed in their bio-informatic laboratories, the prophets of recombinant DNA promise to “remake Eden” by multiplying new species, a paradise that will welcome our evolutionary successors, the fruit of their labor.

But it is not just due to the progress of medical science that people are no longer resigned to dying; it is above all because they are certain that they will be forgotten, that they will leave nothing of themselves behind, due to the fact that they have not

An Impeccable Bliss

How surprising that a society that manifests its alarm over the topic through so many ethics committees meets with so much difficulty delineating a boundary beyond which there would indisputably be a “degrading outrage” to the human condition. To raise questions about the “human dignity” of a frozen embryo is, to say the least, amusing, if one considers that from the start, in order to produce all this dignity has been adroitly transformed into a most abstract notion (along with humanity). The indignity of the frozen and stored embryo waiting got a “new family project” is the result of its “parents” indignity. Being increasingly technologized in order to produce the human product with the best safeguards, procreation has logically had recourse to everything that could insure “zero-errors”. Finally, the passage to the cultivation of embryonic mother cells now prepares these “germinating therapies”, which are therapies only in name, since they deal with acts of transmittable modification, of concrete eugenics. So that when the goal is reached, when no one will know exactly what could be opposed to the cloning of embryos, now so “objectively” necessary, one will be forced to notice that all these improvements of rational eugenics have followed one after another according to a logic of inflexible rigor, which neither the techniques of medicalized procreation nor its users have taken care to resist, rather both equally aspiring to push it “further”.

In a way even more pronounced than in the old eugenics (Nazi, but also American and Swedish), the technicians of biology are shown, in some socially predestined way, developing this ideology of “good” and “bad” genes, without scruples or cynicism in complete good faith. Now, since capitalist society describes that which facilitates its perpetuation it as “good”, they are certainly paid to know it, but they go even further. They follow the rules of functional efficacy with so much confidence, and their interests have naturally so settled in their “thought”, which has become a mere function of the production process, that completely spontaneously, and with the best intentions in the world, they see in “abnormal” behavior – simple biological malfunctions that can and should be corrected by means of

vocation of discovering the secrets of “nature” to refuse the development of such a promising technology, indispensable for studying the basic mechanisms of life and its reproduction. Not to mention the possibility it opens for procuring spare organs for ourselves and even, in the future, for cleaning out any defects in our “genetic program”. In the end, genetic engineering is presented to us not as a sinister possibility, but as a social and economic gift.

After all, we have been guaranteed that there is nothing to worry about, that it is absolutely indispensable to contribute to the needs of research and industry; that in the eyes of the social machine every one of us is so valuable that it is only a question of granting us life, of making it happier; that his process of parthenogenesis would allow us, among a thousand examples, to protect our biological future by knowing our genetic equipment in detail, to produce rare molecules in swiftly modified sequence that can be added to the urine to take care of increasingly sophisticated diseases, or of indefinitely perpetuating our favorite dog. All this blended with rather vague humanistic arguments and assurances pronounced absent-mindedly, as if one were taking with someone who is no longer able to notice the difference between palliative drugs and an effective recovery.

Time passes quickly, and within two years, the consensus has established itself close to the position held by its most lucid defenders from the start. In the meantime, however, we have made an instructive discovery: that the idea of what human life might be is already so lost, so forgotten, so collapsed and so nearly unimaginable by now that no one can elaborate a serious argument capable of contradicting the duplication of the human being in a laboratory. But what becomes known in a laboratory is only “life” in the laboratory, i.e., *nothing*, a “genetic process”, an arbitrary construction that could become observable as a life form only if it were relocated in nature. Here is where obtuseness borders on stupidity in those who demand vigilance, safeguards, in short a confidence in the old experimental method. The “careless” world, left aside by the experimental method, in reality becomes the object of continuous experiment, but by being ignored.

Life: an invention for sale

But let's begin at the beginning. Briefly, we can define biotechnology as a conglomerate of techniques aiming at the industrial exploitation of microorganism, plant and animal cells and their constituents, centered on the genes and especially on the dividing of recombinant DNA, that formidable discovery which dates back to 1973. Its importance lies in the possibility of recombining fragments of unrelated organism – organisms that don't mix in nature – with each other, leading to the demolition of the natural barriers that exist between species. Biotechnology interests productive sectors ranging from the agriculture to pharmaceuticals, passing through the chemical sector, in a technological ensemble in which information technology, robotics and telecommunications also play a part. The production of organism, transgenic plants and animals, as well as vaccines and diagnostic medical tests, only constitute a small example of the near and not so distant future that awaits us. A substantial part of the research is concentrated on the fusion of agricultural and pharmaceutical activity and on the transformation of domestic animals into workshops for the production of medicine. Meanwhile, it won't be long until cloning and genetic manipulation will allow the achievement of standardized animals, studied both in terms of food consumption and of the production of organs destined for exogenic transplants (xeno-transplants).¹

The "life" sciences will have such unthinkable applications in every sector, in earth, sea or sky, even in the fabrication of plastic materials, in mining extraction and, of course, in the military field. Some have turned up their nose at this proposal, noting that biotechnologies are susceptible to applications that are equally "civil" and "military", like any other technology. Observing this ambivalence logically leads to the recognition of offensive weapons in all these techniques. Nothing new, it's the war against life that capital has been conducting for over two centuries. However, the "conquests" achieved by the technologies of genetic engineering have renewed military

about "cyborgs" and other flexible fantasies of the American-style technophilic vanguard expresses without inhibition or censure a desire that is most widespread in our atmosphere of catastrophe: to be protected by one's assimilation, one's internal protective mimicry within the machines of impersonal domination.

In the era of biotechnology, separate kinds with separate names are gradually giving way to systems of information that can be reprogrammed in an infinite number of biological combinations, because it is much easier for the human mind to accept the idea of programming an information system than to accept the idea of programming a dog, a chimpanzee or a human being. On the other hand, the idea of an unalterable human nature that could oppose the project of our reprogramming as a vital force independent of technological mediation, which we would only need to reappropriate, has been corroded for too long by the alterations that toxic elements of industrial society produce in our organism. It becomes impossible for us to recognize our integrity in our bodies, when diseases, syndromes and imbalances alienate us from our bodies through mysterious paths and decidedly elusive causes. The threat of modern diseases (all kinds of cancers as well as mutant viruses and so on) plays the same role of justification for the development of the industry of genetic manipulation that the nazi menace played for the fine-tuning of atomic weapons by the "democratic" megamachine.

Even the opponents of GMOs generally refuse to confront the rather discouraging facts, not really having any other conception of life to oppose to that of economic reason and reproaching power above all for not having been scientific enough. However, it is not the "thought of the future", but thought as such, that finds itself socially struck by paralysis. Those opponents who suspend their own judgment on biotechnology, simply to be considered responsible, claiming to accept its "good" medical aspects in advance and limiting themselves to demanding a broad public and democratic debate on the issue, wretchedly demonstrate this paralysis.

¹ I.e., transplants into other species, particularly human beings. — Translator.

codifying genes that are the common reality of all living phenomena; biochemical micro-processes that can be recombined to infinity at will to manufacture other unpublished, more useful, convenient and specific phenomena. The tautology of technical rationality covers the entire extension of life: the machines that allow the sequencing of the genome to be carried out are also the ones that furnish the theoretical model of “genetic information”. The genetic code is precisely a creation of the computer era, and the extraordinary poverty of this ideology of DNA, which might perfectly well be called the thorough armed exit of the computer sciences from the intellect, expresses the poverty of their logical formalism. But this poverty is not at all extraordinary, nor is it particularly shocking in a society that starts to shape the minds of children from nursery school on by accustoming them to the computer., which will simultaneously be their work tool their means of contact with the outside world and their effective shelter. A society in which the project of a computer that would obey thought thanks to an implant in the user’s brain does not provoke any amazement is a society that answers in advance the question of knowing what margin of autonomy should be left to human thought, to consciousness, the disappearance of which is really what allows one to predict such an improvement in human-machine relationships.

Everyone is already nothing but an interchangeable model for which the administrators of the existent have no particular need and whose existence cannot be justified even in their own eyes. Mass society has already conditioned us to perceive ourselves as replicable models of a species. Thus, we enter without too much uneasiness into the era of our technological reproducibility (which, once again, has no need to be effectively generalized in order to make old conceptions of life out of date). The inorganic “I” of behavioral psychology – the molded human being of the market and its social relationships – can find nothing to object to in her dissolution in the neuro-chemical programming of codifying genes. In fact, he doesn’t only seem not to lose much, but even seems to gain a feeling of security and, along with this, an assurance of being better integrated into the general functioning of the machine and thus of the social collective from which she can no longer readily distinguish herself. The ravings

interest in biological weapons, generating a great concern about the accidental or willful release of dangerous manipulated viruses, bacteria and fungi capable of spreading genetic pollution throughout the world. Just as with the nuclear industry, in fact, the data bank that has been developed for commercial genetic engineering in the field of agriculture, animal breeding and medicine can potentially be converted into the development of a vast set of pathenogenic agents that could attack anything. So various sectors of the armed forces have been working for a long time with the world’s major pathenogenic agents ranging from exotic viral maladies to the most recent viruses like AIDS (HIV). Meanwhile, at the present moment, the American military is introducing genes similar to those that weaver spiders use to spin their webs, which are made of one of the strongest natural fibers in existence, into bacteria. This may be of use in the future in aerospace engineering or in the construction of bulletproof vests. Furthermore, if we consider that, unlike nuclear technology, genetic engineering can be an inexpensive product, requires less scientific capability and can be used for a wide variety of military aims – from sophisticated counter-insurgency operations to large-scale wars to destroy entire populations – what’s so surprising about a report from May 1986, in which the American defense department emphasized that the techniques of genetic engineering are “definitively making biological warfare a real military alternative.”

The enthusiastic interest of multinationals, scientists and statesmen, desiring to have a role in planning the biotechnology revolution, is better understood. In 1988, the Human Genome Project began. The program is sponsored by the American government with a sum of about three billion dollars, conceived with the purpose of mapping and ordering the entire genetic heritage of our species, composed of about 100,000 genes², by the year 2002. In a short time, perhaps less than ten years, all of these genes – the new raw material of the 21st century – will be

² The completion of this mapping has shown the number to, in fact, be 23,688 genes, to the chagrin of those hoping to find “solutions” to all our ills in the genetic code. Despite this disappointing number though, 20% of these genes have been patented in the US. —Translator

patented, becoming exclusive “intellectual property” of a limited number of businesses of the genetic-industrial complex and of governments (a few years ago, the United States government presented a claim for patent rights in Europe and the United States for some for some cellular lines taken from citizens of the Solomon Islands and Papua New Guinea!), which could lead to analogous patents for microorganisms, plants and animals, in time conquering an unprecedented power over our lives and especially those of generations not yet born, through the preventative manipulation of all the biological processes of the planet. Among the most important multinational corporations that are taking over large slices of the global bio-industrial market, the following would have to be mentioned: the Monsanto Corporation (that has acquired Holden’s Foundation Seeds, a good share of DeKalb, Asgrow, Agracetus and Calgene), Novartis (that originated from the fusion of two Swiss companies: the agrochemical Ciba-Geigg and the pharmaceutical Sandoz, which in its turn acquired Genetic Therapy, Inc. in 1995), DuPont (that acquired Protein Technologies International from Ralston Purina along with a good share of Pioneer-HiBred, the largest seed industry in the world), Dow Elenco (that acquired a large share of Microgen), Upjohn (that has invested in Incyte), Eli Lilly (that has participated and entertained commercial relations with Myriad, Inc. along with Novartis), Rohm and Haas, AgrEvo (that acquired Plant Genetic Systems in 1996), Schering Plough (that acquired Canji in 1996). Well then, a fierce, unprecedented competition is in progress between all the chemical, pharmaceutical, agricultural and biotechnological corporations that exist to obtain commercial patents on genes, organism and manipulation processes.

Obviously, the problem of patents on life has been the topic of harsh polemics coming from those who oppose the possibility of taking possession of any organism that already exists in nature. At the center of the problem of patentability there is the question of whether genes, cells, tissues, organs and entire genetically modified organisms (GMOs) are really human inventions and not merely natural creations “intelligently modified” by human beings. So the patent and registered trademark office of the United States has thought to resolve such

distinguishable as a particular absurdity. It’s a *leap into the unknown*, but everyone feels that it is necessary to make it. And if the question is “How do we feed seven, eight, nine, ten billion people?”, the answer could well be the transgenic. Of course, false media consciousness, duly informed, admits that the innocuousness of biotechnology is not guaranteed. But how heavy could this uncertainty be when so many other disquieting phenomena weigh us down, from climatic disorders to the precariousness of the water supply, discouraging reflection and any sort of intervention against technological imperatives and the instructions of the ruling order.

To expect to be able to ascertain the effects of biotechnology in order to judge them means to ignore, among other things, that we ourselves are really the guinea pigs of these experiments. It means above all to refuse to think about what is right in front of our face, not wanting to see its monstrosity. In fact, without ever having to examine the chimerical organisms produced in the laboratory, we know that the transgenic generates monsters, in the strict sense, species of new beings that cannot be classified, that don’t belong to any known category: headless animals, super-rats endowed with genes for manufacturing human growth hormones, sheep-goats, tobacco plants that produce human hemoglobin, mustard plants transformed into factories of plastic materials, citrus fruits created from tissue cultures and so on.

But the monstrosity of the results only reveals the monstrosity of the conception that aims to destroy categories, the very notion of species as distinct and identifiable, and to treat each specific species “as a bank of transferable genes” removing the natural boundaries with other species.

No Longer Being Distinguishable

Thus, establishing a distinction between biotechnologies means refusing to see that the power of disintegration itself is damaging *all* forms of life; plants, animals and humans are treated as a single, undifferentiated genetic material. Biotechnology dissolves all distinctions, they whole amazing variety of phenomena that nature had placed in its organic kingdoms, and within them, among the species. It only sees a swarm of changing figures driven from within by codified and

The Unproposable Precaution

So the rationalist critique of genetic reductionism appears fairly weak, in that it denounces a crude ideological lie about human nature without recognizing that, before our eyes, this lie is on the verge of appropriating reality, of making that which would contradict it disappear and becoming “true” in this way. Given the condition into which science as we know it has put the world, there would be something incomprehensible about scientific superstitions in mass society, if, beyond a certain cowardice in allowing oneself to be carried along from hope to hope against all evidence, the seemingly general aspiration to participate in this well known privilege of scientists: not having to think, being relieved of this burden and thanks to this being so much more adapted to the specifics of machine society. Anyone who imagines himself be means of cybernetic representations finds herself forcefully displaced in the face of the activities of genetic engineering. What human nature is left for him to invoke? If you observe a young 12-year-old consumer absorbed in his PlayStation and you imagine the fate allotted to him in electronic civilization, you don’t see what possible objection could still be made against cloning and genetic manipulation. The result is already before us, with its brand-name clothes and its piercing, its flexible culture, its reduced language and its tattooing. Perhaps it is a bit late to be worrying about what will be left of us after genetic reconstruction, and besides no one seriously takes any notice of it.

Many associations that oppose the spread of GMOs – that show the risks of possibly irreparable damage to the “ecosystem”, insist on the necessity of having guarantees and safety, speak of “wise management of resources” demanding moratoriums on cultivation, and accompany their invocations of cautionary principles with the ritual exhortation to take care for the future – are not convincing. Not only because they speak of caution, regulation and trials when in 1998 there are already assorted forms of genetically modified cultivation spread over about 130 million acres of land, but especially because the efficacy of the propaganda rests on the fact that since the future has become unthinkable, transgenic scenarios are no longer even

problems once and for all, declaring that the isolation and classification of the properties and functions of a gene are enough to make an invention of the discovery. No sooner said than done.

So that, after the enclosures of the common lands in the 16th century, along with the commercial enclosures of portions of the oceanic, atmospheric and electromagnetic resources, since 1971, genetic resources have begun to be enclosed and privatized. And now more personal resources, such as the human body are also undergoing the same treatment and are on the verge of being reduced to private commercial property and distributed to commercial and political institutions in the form of “intellectual property”.

The Sneers of the Future

The cause of the moral indignation that the prospect of the reproductive cloning of human beings has provoked is not difficult to find. This procedure does not in itself pose any special problem as compared with a normal *in vitro* insemination. After all, the baby produced in this way would similarly have a mother and a father, and nothing would distinguish it morally from an individual obtained through the injection of sperm, which is already a form of cloning from two. This is illustrated by the American example of a fertilization brought about with sperm taken from a man’s corpse the day after his death and then frozen to await the result of the ovarian stimulation of the woman. What really arouses discomfort is the science fiction vision of standardized individuals manufactured in the incubators of a reproduction industry, perhaps in accordance with the needs of a totalitarian state. A fiction so much more disquieting in that, in a certain sense, it is what we have become within the infrastructure of industrial: our existence entirely dependent, artificial and parasitic; our behavior standardized to the internal logic of the machine and to the mechanisms which one needs to make use of for anything; our food without any aroma or flavor; our ideas conformed to the flux of images and slogans that electronic communication constantly injects into us, feeding our mental universe.

It is the awareness repressed by this collective degeneration that causes the specter of human cloning to emerge in some. In others, identification is so advanced, self-awareness so utterly extinguished, that these moral reactions, these fears about the “integrity of the human being”, make them sneer. The clone represents the advent of the “new human being” of which they are the vanguard, and they rejoice in the promise of soon seeing their opportunism completely justified by history. As a logical consequence, each rejection of GMO food – of “Frankenfood” as they themselves like to describe it in mockery of the dismay of the people – can only reveal an extremely suspicious attachment to the values of the past.

Meanwhile, propaganda continues to describe a radiant future where hunger will be eradicated everywhere, and an agriculture will finally be developed that is “respectful of the environment” and “capable of protecting itself from diseases” with plants transformed into “natural factories for constructing molecular pharmaceuticals”. This is finally supposed to dissolve the specter of human cloning and Frankenstein as prejudices of another time, of an old, distant history from which this precipitation of events that constitutes the entire appeal of contemporary life drags us. In this future, a week does not pass without the accredited journals publishing a story of victory on the biotechnological front, technical “discoveries” that follow one after another with such a rapid succession as to sweep away all resistance that they encounter, penetrating more and more into the interior of life’s territory, impatient to rapidly reach its final boundaries and proclaim it to be fully conquered. In the end, the flag of scientific rationality will wave everywhere along the frontiers of the living world. But, because this biotechnological optimism, similar to cybernetic optimism, remains plausible, it is best to avoid reading the other pages of the same journals where instead a mood of no less precipitous, planetary, evolutionary disaster, of accelerated collapse of climactic balances, of the ruin of natural resources by the productive forces and of the inevitable internal decomposition of an overpopulated world society that is prey to infectious diseases, hunger, thirst, chemical pollutions and “smart” wars.

that is precisely the same as the world realized by domination, because every society must feel assured that the way in which it conducts its activities is compatible with the natural order of things, reflecting the grand design of nature: Here the impatience of the ruling order to proclaim the abolition of nature to the benefit of its biotechnology is explained.

Acquiring access to the genetic foundations of that which exists organically (as earlier, to the atomic foundations of the inorganic), drawing attention to what is most abstract in us and extraneous to ourselves, establishing our genetic code, which becomes our authentic identity in its eyes, instrumental reason end up identifying itself with domination that has thus produced it, confusing itself with it; they can no longer be considered separately. All acquiescence to this positivism is first of all acquiescence to its domination and to our own alienation, all the more so when it manifests more consideration toward us. Our alienation takes care of exempting us from the knowledge of exactly what we are doing, of being completely conscious of it, furnishing us with the comfort of not having to be fully aware of our acts, of not having to find our person there. Scientific medicine has already dispossessed us of our illnesses, of this knowledge of ourselves, rendering them foreign to us. With the sequencing of the genome our very life will become foreign to us, but we will not be aware of it. Here is happiness. “For the individual, the ruling order embodies the universal, reason in its reality”, and thus it relieves him of his perplexity before the embarrassing richness of life, reducing life to a method of complete usage that shelters it from chance and the unknown. For example, genetic tests for the predisposition to diseases and behaviors transform existence into a fatality that doesn’t keep up any relationship with social conditions. These will no longer be able to be thought of as determinations and will be naturalized into intangible practical data, in the conditions of existence of the collectivity outside of which nothing exists.

The individual only exists her genomic destiny; her social existence is nothing but a reflection, or a sanction. One obeys because one lacks the genes of power.

tissues, from youth hormones prescribed from thirty years on to the “electronic bracelets” of the prison outside the walls that only need to be connected to satellites since the whole world is becoming a virtual prison watched over by an orbital guard, along with the entire cybernetic mess indispensable to the illusion of virtual reality or to the automatism of instantaneous war.

A World With No Outside

It is not necessary to have a special knowledge of molecular biology in order to be able to affirm that the undertakings of the techniques of manipulation will have consequences that are incalculable because they are uncontrollable and irreversible. The qualitative essence of forms of life manipulated as *things*, which is still misunderstood and overlooked, and which is considered as something that can be calmly eliminated and replaced with specific genetic logic, must necessarily become the decisive factor; the “catastrophe” being nothing but the illicit profit of the ignored totality.

All the more so because no single contradiction could ever push power to reflect on itself: when invasions of parasites, the multiplication of infections, the sterility of the earth or the increase in tumors bring a manifest methodological error to its attention, instead of taking these events into account and modifying the method, it seeks to destroy the event that has contradicted it, inventing a new insecticide to contain the increasingly tough parasites, chosen on the basis of resistance, new antibiotics, cultivation outside of soil and incredible therapies to slow down the progress of metastasis. One can see how artificiality has become the official ideology of domination, which denies the necessity or even the existence of Nature, trying as always to be a totality from which humans could not imagine escaping, a world with no outside. And it is really because domination has always been horrified by the idea that anyone could outside of it, that it must rewrite the laws of nature in order to make them conform to its most recent manipulations of life, trying to rationalize the new technological and economic activities of the era of biotechnology as a reflection of the order of things. It is only a short step to constructing a model of nature

No Distinction of Anguish

It is understood that society organized on a global scale has lived in an atmosphere of a state of emergency for quite some time. This certainly reflects its real condition, but it is also the climate of catastrophe in which this society must make us live in order to impose its technical innovations on us. With regard to genetically engineered plants, the argument for the speed of the selection process (from 2 to 3 years as compared with 20 to 30), aside from satisfying the need for a return on the investment, corresponds to the requirement to abolish all possibility of regression, of distance, of mere time for reflection. Thus, for genetic engineering applied to human beings, the mechanistic coarseness of the forecast therapy (one gene, one disease) follows the continuity of the representations of previous scientific medicine (one microbe, one disease), and furthermore uses the propaganda about “bad” genes to maintain the climate of anxiety it needs in order to get rid of reasonable awareness about the morbid environment and what was once called the etiology³ of disease. Even crime has been transformed into a question of physical health, shifting the debate from the environmental and social factors that could influence it to the genetic “errors” to control or extirpate.⁴

The same logic gets applied in the promises of miraculous treatment that – we are told – will hold back the heretofore inexorable progression of tumors. This is why publicity has begun against the fear that will end with the sweeping away of all hesitation about biotechnology. Because biotechnology doesn’t only have the phantoms of therapeutic perfection and immortality through cloning to sell us. More prosaically, it has already started to impose some genetically “enriched” species in agriculture. The hobgoblin of human cloning might instead serve

³ The study of causes—Translator

⁴ Some of us find neither of these options for understanding “crime” acceptable, because they start from the assumption of the individual as a victim of circumstance, when for some, surely, “crime” is a conscious choice for dealing with their life in this world. —Translator

as a fantastic monstrosity to banalize the much more real and tangible one of genetically manipulated organisms.

But if it is true that the existing continuity between industrial agriculture and its biotechnological perfection is the same one that leads from mechanistic medicine to the application of genetic engineering to human beings, it seems extremely silly to claim, as so many opponents of GMOs do, to set the eventual therapeutic applications of biotechnology, which are well guarded against disapproval, apart, in order not to offend general opinion or because one is convinced that it is a matter of a hopeful sign of progress.

The alienation of people isolated in mass society has pushed them to abandon nature external to the human being to industrial exploitation in exchange for a standardized nourishment and little care is taken to find out exactly how it is produced. This same alienation also caused them to entrust their organic nature, their own bodies, to the health industry.

To warn people about what happens in the fields, so far from their artificial lives, without interesting them in what immediately reassures them (the contents of their medicine cabinet, cosmetic surgery, the promises of genetic therapy) is illogical and at the same time futile. Just as it is futile to show that the things that molecular biology points out as errors to correct are variations of on a them of a rich receptacle of genetic diversity essential for maintaining the variability of species in relation to an environment in constant flux. Nor is there any sense in revealing that these new transgenic techniques are rather primitive when compared with nature's own processes; this is a point that is willingly ignored in the clamor created around the novelty of genetic engineering.

Yes, perhaps only a few seriously believe in the coming of such a godsend, let alone panacea; but this is enough, because everything passes in the hastening of events, of the resigned adaptation of those who have lost from whatever side – between the cell phone, neuroleptic drugs and the computer – the feeling of their own integrity and so certainly can't be shocked by a tomato that contains some fish genes.

Progressives and Men of Good Will

“How do you refuse some of the extraordinary advances born in the biotechnological laboratories? The new methods of genetic manipulation respond to many of our desires and aspirations...” Formulated in this way, at least the question has the merit of showing that for many individuals what biotechnology promises is not merely acceptable, but mysteriously *desirable*, and if there is anything to worry about, it would be that in the end these promises might not be kept, or at least not for everyone.

And since the good will of progressives is decidedly inexhaustible, he is therefore willing to live with artificial organs and extensions just as he learned “to live with nuclear power”. The eternal client, who remained a *voter* in this, has always believed in possessing a personal opinion and something to *choose*, whereas she is only an organ for receiving the decisions of the market. Now he accepts becoming a kind of mutation, transforming himself into an organ carrier through transplant for the innovative products of the medical industry, in fact consenting to be the organic appendage, the rather cumbersome and foolish peripheral device of its information terminal linked to the global network. In summary, she has accepted becoming a creature of industrial civilization, a form of biological life that this civilization needs in order to perpetuate and extend itself and that it can decide to genetically correct in order to better adapt her to its functioning, in the same way that the domestication of animals improved species with the selection of characteristics that made them unfit for the wild life.

Global enterprises of monopolized survival put forward the market of catastrophe. They anticipate the moment when health and agriculture will be equally devastated and the final mercantile racket will rest upon medicine and sustenance. Meanwhile, the devotees of resignation prepare to “enter a new era”, to complete “a mutation without precedent since the Neolithic era” through the introduction of implants and prostheses aimed at equipping our blooming in an industrial world finally realized. These range from the manufacture of organs through the guided cultivation of mother cells to the production of headless fetuses that would serve as stocks of